

## Trustees and Finance Committee Meet; Plans for Next Handbook Considered

A meeting of the Board of Trustees of the American Society for Metals was held in Cleveland on June 14. Those present were B. F. Shepherd, R. S. Archer, Emil Gathmann, W. H. Eisenman, W. H. Phillips, E. C. Bain, G. B. Waterhouse and W. P. Woodside. Walter Mathesius was absent.

Upon motion properly made, seconded, and unanimously carried, the minutes of the previous meeting of the Board of Trustees held in Cleveland Nov. 9, 1934, were approved.

Treasurer Gathmann then presented the report of the Finance Committee meeting held in the National Office the preceding day, which was as follows:

"Present: Emil Gathmann, Chairman; W. S. Bidle, Zay Jeffries, Walter Mathesius, B. F. Shepherd, W. H. Eisenman.  
"Guests: W. P. Woodside, G. B. Waterhouse.  
"Absent: Paul D. Merica.

"Chairman Gathmann presented for consideration the list of A.S.M. investments, and the Secretary read the letter of transmittal from A. A. Welsh, assistant trust officer of the Cleveland Trust Co.

"A general discussion of investments and principles of investments was carried on, with particular attention to the holdings of the A.S.M.

"After considerable discussion, it was moved by Dr. Jeffries, seconded by Mr. Shepherd and unanimously carried that the Finance Committee desired to have placed on record the fact that they had discussed placing some of the funds of the Society in common stocks but decided that at the present time, holding bonds, as they were, of low value, constituted a mild hedge against inflation and that no change in the portfolio of investments should be made at this time but that very close attention should be paid to the general trend of conditions, and that a special meeting of the Finance Committee should be called at some future time if necessary.

"The Committee was notified that the \$5,000 Swift & Co. 5% notes of 1940 had been called for payment Sept. 1, 1935, at 101 1/4 and accrued interest.

"Upon motion by Mr. Mathesius, seconded by Dr. Jeffries and unanimously carried, the chairman of the Finance Committee recommended that the board of trustees authorize the chairman of the Finance Committee to sell these Swift 5% bonds any time between now and the call date, and that the funds should be reinvested in the purchase of \$5,000 par value U. S. Government Bonds, or any other bonds guaranteed by the government and approved by the estates department of the Trust.

"The balance sheet of the Society for the first nine months of the present fiscal year was presented, observed, discussed and approved for presentation to the Board of Trustees.

"The advertising accounts receivable were also given close observation and discussion, and their satisfactory condition observed as well as approved for presentation to the Board of Trustees.

"The Finance Committee then scrutinized the income and expense statement for the first nine months of the present fiscal year and observed that the gain on the first nine months' operation was \$16,345.97, and approved it for presentation to the Board of Trustees.

"The Secretary presented a report on the financial status of the 1935 Metal Exposition and its prospects, after which the meeting adjourned.

Upon motion by Dr. Waterhouse,

## Round Table Discussion Proves Real Fact-Finder

Reported by Ralph A. Thompson

Indianapolis Chapter, May 13—One of the most interesting meetings of the year was held at the Washington Hotel on May 13. Following the dinner a business meeting was held and officers for the following year were elected.

The subject of the meeting was "A Round Table Discussion on the Problems of Our Members." Each member with a question submitted his inquiry on paper unsigned. These were read by the chairman, and then were discussed freely. Those with similar experiences gladly offered suggestions.

The meeting developed to be a real honest-to-goodness fact-finder for many who were in need of help. A variety of subjects included reactions of heat treatment, methods of heat treating specific items, and welding problems.

This type of open meeting proved so successful that it is the plan to hold one at least once each year.

seconded by Mr. Archer and unanimously carried, the recommendations as contained in the report of the Finance Committee were approved.

Mr. Gathmann then presented the profit and loss statement from Sept. 1934 to May 31, 1935.

Upon motion properly made, seconded and unanimously carried, the profit and loss statement from Sept. 1934 to May 31, 1935, the balance sheet to May 31, and accounts receivable May 31, and the investment report as of May 31 were given careful consideration and unanimous approval.

The Secretary then presented a report on the membership of the Society, which showed that on May 31, this

### ANNUAL MEETING NOTICE To the Members of the A.S.M.

This is your official notice that the annual meeting of the American Society for Metals will be held in the ballroom of the Palmer House, Chicago, Ill., on Wednesday morning, Oct. 2, 1935. All members of the Society in good standing are privileged to attend and vote.

W. H. Eisenman, Secretary.  
Cleveland, Ohio, July 15, 1935.

year, the Society had 6,632 members, while on the same date a year ago the Society had only 5,456, a net increase of 1,176.

The Secretary reported that three chapters—Chicago, 640; Pittsburgh, 504; Cleveland, 551—had exceeded the previous high (511) any chapter had had.

The Secretary further reported that only 233 out of a billing of approximately 4,200 had been dropped for non-payment of dues, and that approximately 50% of those dropped would ultimately be reinstated.

The Secretary then presented a report on the National Metal Exposition, which was as follows:

"The attached list of exhibitors for a total of \$54,280 is indicative of the present standing of the National Metal Exposition.

"Either due to improved business conditions  
(Continued on page 4)

## A. S. M. Headquarters



Chicago's Palmer House



Exterior View and Main Lobby of the Palmer House, Chicago, Headquarters for A.S.M., A.I.M.E., and A.W.S. at National Metal Congress

## Palmer House Is Convention Hotel

### Papers for Daily Sessions Ready for Preprinting

Five minutes from all railroad depots, in the center of the theater district, one block from Michigan Blvd., the Art Institute, and Grant Park, and five minutes from Soldiers' Field will be the A.S.M. headquarters for the National Metal Congress in Chicago Sept. 30 to Oct. 4.

The Palmer House, at State, Monroe, and Wabash Sts., has 2242 rooms all with bath and all above the tenth floor. Six dining-rooms can provide food to suit all tastes and pocket-books.

Since the American Institute of Mining & Metallurgical Engineers and the American Welding Society will also make their headquarters here, members are urged to send their reservations to the Hotel early. Headquarters for the Wire Association will be at the Congress Hotel.

Rates at the Palmer House are as follows:

Room for one—\$3.00, \$3.50, \$4.00, \$4.50, \$5.00 and \$6.00.  
Double bedrooms—\$5.00, \$6.00, \$6.50, \$7.00, \$8.00, \$9.00 and \$10.00.  
Twin bedrooms—\$6.00, \$6.50, \$7.00, \$8.00, \$9.00 and \$10.00.  
Suites of two rooms—\$10.00 and up.

### Technical Sessions

The technical program this year contains more than 40 papers by men whose names are synonymous with the latest developments in the science and art of metallurgy. Research men and scientists will be present, as well as those versed in the practice of metallurgy who will discuss the papers.

There are sessions devoted strictly to research and others dealing with practical shop problems, service tests of materials, melting practice, tool steels, and alloys. Morning sessions will be at the Palmer House Ball Room and afternoon sessions at the International Amphitheatre.

A series of five lectures on fundamentals of heat treating and another series on the use of the spectroscopic in quantitative analysis of metals will round out a full and varied program.

Preprints of the papers are being prepared and will be ready for distribution about Sept. 1. They may be ordered now and a complete list is given on page 5.

### Exhibitors Number 165

Sales of space for the Exposition, to be held in the International Amphitheatre as part of the Congress, still continue at an unprecedented rate. Exhibitors now number 165 of the leading firms in the metallurgical field, and the amount of space reserved is 25% larger than the total space taken at the Show last year in New York.

## Peoria Chapter Enjoys First Annual June Frolic

Reported by J. E. Nordstrom

Peoria Chapter, June 15—This was the first June Frolic of the Peoria Chapter. The sports program—golf, tennis, and horseshoe tournaments—began at 1:00 p.m. in Bradley Park. Cash prizes were awarded for first and last places in golf.

Following the sport events, the 52 members and guests assembled at the Big Hollow Tavern for a stag dinner. A sparkling five-act floor show and a nine-piece orchestra provided the entertainment during and after dinner.

All enjoyed themselves thoroughly and the future success of the June Frolic as an institution with Peoria Chapter is assured.

## Lukens Is Host at Philadelphia Outing

Reported by Adolph O. Schaefer

Philadelphia Chapter, June 7—The annual meeting was held in Coatesville where the Chapter was royally entertained by the Lukens Steel Co.

All arrivals were received at the office of the company, which was suitably decorated with flags and bunting and a large welcome sign. The reception committee might have been picked by the late Mr. Ziegfeld, but had actually been recruited by Mr. Gillen of Lukens. Philadelphia thinks he's a good picker.

The feature of the morning's program was a golf tournament at the Coatesville Country Club. A handsome silver trophy, presented by Brown Instrument Co., went to Oren H. Persons of Edgcomb Steel Co. for a low gross score of 82. Runner-up was T. Francis Conahan of Sun Oil Co. who could show an 87 for his morning's work.

Luncheon was served in the Lukens Steel Co.'s dining room to almost a hundred men; this figure was doubled for the trip through the plant, which was conducted in small groups by numerous guides. Lukens Steel Co., Lukenweld, Inc., and the By-Products Steel Corp. were visited.

The guests witnessed the tapping of an open-hearth heat, saw the soaking pits, and followed the ingots through the mills until the finished plates were sheared and inspected. The world's

largest plate mill was in operation, and lived up to all expectations by providing plenty of noise, sparks, and steam. The manufacture of dished and flanged heads and the gas cutting of plates into many intricate forms were interesting features.

Then came the Annual Dinner. Quantities of fried chicken and shad roe were needed to appease the appetites developed by a day's walking. Music, singing, and conversation were all in evidence.

There weren't many speeches. F. H. Gordon, Lukens vice-president in charge of sales, officially welcomed the members to Coatesville. He and his company were accorded rousing votes of thanks. R. W. Moffett, of the By-Products Corp. added a few words.

Retiring Chairman Francis B. Foley reviewed the records for the chapter season, and credited his co-workers for its success. A chromium cocktail set was given him by the Chapter in appreciation of his services. Both Mr. Foley and Incoming Chairman George W. Keller were enthusiastically cheered.

Thus ended the 1934-35 season of the Philadelphia Chapter. But the day's outing still went on. Chairs and tables were cleared away, and a floor show was presented which helped to usher in an evening full of conviviality and good fellowship.



## THE REVIEW

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RAY T. BAYLESS ..... Editor  
M. R. HYSLOP ..... Managing Editor

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3937 to 6684 Members—  
A. S. M. Did it in 2 Years

The time was May, 1933, the place the National Office of the American Society for Metals.

Things looked very black indeed. Banks had closed in March. The annual billing had been completed in March, and all members who had not paid their dues had been relegated to the arrears limbo.

Membership Secretary Charles Ellicock had completed his monthly report, and juggle the figures, check and re-check as he would, the total membership would amount to no more than 3,937. The largest chapter (Cleveland) could boast a meager 370 members. . . .

Change the scene now to July, 1935. Mr. Ellicock presents his June report with a smug and satisfied air, for lo and behold! the membership totals 6,684 and the Chicago Chapter carries 642 men.

Never before in the history of the A.S.M. has the Society as a whole nor any single chapter equaled these records.

Is the depression over? Can the American Society for Metals stage a come-back? We think the figures speak for themselves!

Lectures on Heat Treatment  
To Be Given at Convention

A series of five lectures on "Principles of Heat Treatment," will be presented by Dr. Marcus A. Grossmann, director of research of the Illinois Steel Co., at the National Metal Congress, Chicago, the week of Sept. 30. The course will be presented at 4:30 p. m. each day at the Exposition Hall.

The lecture course will cover the principles of hardening, normalizing, tempering, case hardening, and annealing. Grain size, equipment for heat treating, and the iron-carbon diagram will also be discussed.

The course is open to members of the A.S.M. only. Watch for enrollment coupons for advance registration. These will be published in the September issue of THE REVIEW.

## Letter to the Editor

## Cast Iron Pouring

Birmingham, Ala.—In my talk on cast iron before the Pittsburgh Chapter of the Society, Feb. 15, (reported on the front page of the May REVIEW), I did not mean to convey the impression that the optical pyrometer was inaccurate above 1375° F.

As a matter of fact, this is the temperature at which the surface does clear up, and the emissivity corrections as given by the manufacturers are practically correct for temperatures above this point. It is at 1375° and below in true temperatures that the readings become accurate only as the observer is skillful in estimating the character of the surface and the amount of the oxide film which is formed on it.

The statement that the best pouring temperature is 1375° is approximately true of a normal gray iron. However, as I remember, the statement was that in gray irons of unusual composition the best pouring temperatures seemed to be about 150° above the liquidus line. This would require, in the case of an iron of 2.25% carbon and 2% silicon a pouring temperature of around 1450° F., which is probably necessary for a sound casting. The pouring temperature, of course, must be varied to suit the gating of the mold as well as section size, etc.

JAMES T. MACKENZIE

Caswell Honored for 16  
Years Chapter Service

Reported by B. R. Queneau

Northwest Chapter, May 14—The 16th annual meeting, attended by over 130 members and guests, was a decided success. After a delicious and substantial dinner, the company was treated to some old-fashioned songs by "The Jesters." The business details were passed over rapidly and the elections were carried off in real steam-roller fashion.

Retiring Chairman H. H. Blojso introduced the new chairman, D. E. Hult, who in turn introduced the toastmaster of the evening, Dr. R. L. Dowdell, with a few well-chosen remarks mostly of a personal nature for which he might well be sued for defamation of character. Dr. Dowdell then returned the compliments and kept the company in good humor while introducing all the past chairmen that were present.

Mr. Blojso, in behalf of the Chapter, presented a desk set to Alexis Caswell, secretary-treasurer since the founding of the Chapter, in appreciation of his loyal and efficient service and as a mark of the esteem in which he is held by the Chapter members.

A short talk on precautions taken in the manufacture of quality steel was given by Dr. Marcus A. Grossmann, director of research of the Illinois Steel Co. The production of steel in both the open-hearth and electric furnace was discussed and illustrated with many lantern slides. The soundness of ingots and prevention of segregation were covered in detail.

Discussion had to be cut short to enable Dr. Grossmann to catch the night train back to the Windy City.

Write the Palmer House Now for  
Convention Reservation

## I. A. A. to Meet in Cleveland

The International Acetylene Association will hold its 36th annual convention this year at the Cleveland Hotel, Cleveland, Ohio, on Nov. 12 to 15, according to an announcement by H. F. Reinhard, secretary.

The unusual interest evinced by all who attended the convention last year has inspired the development of an even more extensive program for this year's meeting. Speakers at the technical sessions will include leading welding engineers and prominent men in many fields of commerce and industry.

Copies of the tentative program may be obtained by writing to the Association's headquarters at 30 E. 42nd St., New York City.

B. & L. Names Representative  
For Southwestern Territory

Bliss & Laughlin, Inc., manufacturers of cold finished bar steels and shafting, with mills at Harvey, Ill., and Buffalo, N. Y., announce the appointment of G. G. McDonald as sales representative covering Arkansas, Oklahoma, Texas, and boundary cities of Texas and Louisiana. The district office will be located at 3502 Rosedale St., Dallas, Texas.

Chicago Ends Year as  
Largest Chapter; Hears  
Deuble on Inspection

Chicago Chapter, May 9—H. B. Knowlton, metallurgical engineer of the International Harvester Co., was elected chairman at the final meeting of the season.

Mr. Knowlton confined his speech of acceptance to a short appreciation of the services rendered the Chapter by Retiring Chairman H. A. Anderson. Under his leadership the Chapter increased its membership to 642, the highest total, at the last report, of any chapter in the Society.

That the members, having joined, took an active part in the proceedings of the Society was indicated by the fact that attendance at the monthly meetings never fell below 300, while on at least two occasions it was at least double that figure. The Chapter finished the year with no debts and a balance of \$2500 in its treasury.

The technical talk was delivered by Norman L. Deuble, metallurgist, Republic Steel Corp. Speaking from his experience both in the laboratory and as a "trouble shooter" investigating complaints in the field, Mr. Deuble discussed metallurgical inspection. He showed a number of interesting slides illustrating failures originating at the mill and failures resulting from improper treatment in later processing.

As usual in the Chicago Chapter, the discussion proved one of the most interesting parts of the program, particularly that by Dr. M. A. Grossmann and R. S. Archer on McQuaid-Ehn tests.

Dr. Grossmann pointed out that metallurgists are continually coming upon variations from expected findings in the test which they are at a loss to explain in the light of their present knowledge. Mr. Archer admitted this, but pointed out that these are exceptions to the rule, and should not detract from the general usefulness of the test. Both speakers agreed that too much was expected of the test when it was first developed, as is usually the case with any new tool but that in spite of its failure to live up to these too-extravagant claims made in its behalf, it is still a most important tool for the metallurgist.

Write the Palmer House Now for  
Convention ReservationsF. J. Walls Makes Startling  
Predictions for Cast Iron

Southern Tier Chapter, May 20—Officers for the 1935-36 season were elected at the May meeting and are listed on page 6.

Reports for the year were then given by the various officers.

F. J. Walls of the Research Department of the International Nickel Co. was the speaker and handled the subject of "Alloy Cast Iron" in a highly capable manner. Lantern slides clearly illustrated those points he desired to stress.

Mr. Walls made rather startling predictions in regard to the production and use of cast iron in the future. He predicted that more would be discovered about cast iron in the next five years than has been discovered in the past 50. He pointed out that the grain size undoubtedly would be controlled, even as it is today controlled in steel.

His talk centered around the physical properties developed by alloy additions to cast iron. Among the applications which have come into recent use Mr. Walls mentioned alloy crankshafts, camshafts, forging and forming dies, and brake drums.

## Educational Courses Planned

Educational courses have become such an important part of chapter activities that several of the chapters are already making plans for next year's schooling.

Two of them (Chicago and Washington) have circulated questionnaires among their members which should be very helpful in determining what type of course is most desired.

## Odds and Ends

Exhibitors are flocking into this year's National Metal Exposition just as they did in days of yore. The way it looks now, believe it or not, the exhibition space in the new International Amphitheatre in Chicago will be sold out by the time the Show opens on Sept. 30.

Can you picture the expression on Bill Eisenman's face if he has to hang out the S.R.O. sign to tardy exhibitors with money in their pockets?

With a lot of fine papers ready for presentation and with a big show in the exhibition hall—where there'll be an idea in every aisle—is it any wonder that attendance is expected to be a record-breaker? On to Chicago!

If you've ever spent a long, dry evening because your only bottle of beer dropped on the floor (and didn't bounce), you'll welcome the new tin can containers being used by the Pabst and Krueger breweries. Then too there will be no more bottle deposits and no more bottles to return.

Incidentally, if the cans click with the stein hoisters there will be a new market for 3,000,000 tons of tin plate.

Some books become best sellers in spite of bad reviews. However, boosts are better than knocks, and that leads us to the Book of Stainless Steels, second edition.

Here is what one reviewer says, "The first edition appeared but sixteen months before the second, the necessity for which, in so brief a time, is eloquent of the usefulness of the volume. . . . It's a good thing the binding is strong for the book will be referred to very often. . . . Owners will not care to lend it; they are liable to need it while it is gone."

Have you ordered your copy?

Incidentally, more than 33% of the material in this new edition appeared at one time or another in *Metal Progress*—just another reason why copies of the magazine are being saved by most readers. Do you know that *Metal Progress* can be bound in cloth, six copies to the volume, for only \$4.25? They belong in every metallurgical library.

And here is as good a place as any to say something about the October issue of *Metal Progress*—the Metal Congress issue. This big number will be divided into ten special sections, each devoted to an individual branch of the metal industry. Top notchers in the metal world will write special articles for each section.

If a reader is particularly interested in forgings there is a special section for him. If he is interested in stainless steels or non-ferrous metals or testing instruments there are special sections on those subjects too. (Aside to advertisers: you can reach you best prospects through one or more of these ten sections.)

Will wonders never cease? Soon we may be eating milk-fed fish. At least that seems possible what with the Borden Co. marketing what is described as a "fish lure made from milk."

Something really constructive now are these new stainless steel tennis nets. Stainless steel by Allegheny, fabrication by Page Steel & Wire. They cost about twice as much as ordinary nets—but how they wear!

A.S.M. membership continues to climb. On July first it was 6,684. Chicago is at the top of the heap as far as chapters are concerned, with 642 members, the largest number of members any chapter ever enrolled.

Did you know that soon you will be able to buy your wife a stainless steel piano—and that right now, as if you cared, you can buy her an electric iron with an air cooled handle and, of all things, a headlight! (All the better to hit you with, my dear!) A.P.F.



## Cleveland Wants New Rules for A. S. M. Baseball

Reported by Gordon T. Williams

Cleveland Chapter, June 6—So the Cleveland Chapter ups and has an outing. Although nothing of metallurgical importance was accomplished, the details should probably be preserved.

The parade of all members, in colorful uniform and accompanied by three brass bands, was omitted this year as it always has been.

The outing "proper" was held at Sleepy Hollow Country Club. Oblivious to the scenic beauty surrounding them, one hundred alleged golfers played alleged golf. From the large number of fine prizes donated by friends of the Chapter, awards for arithmetical proficiency on the golf course were won by McDonough, Blazek, Frey, Code, Platell, Braund; Guests Boyle, Proctor, Finley, Wilhelm.

The annual ball game was featured as usual by the vocal and acrobatic performance of K. R. Van Horn, whose side gained the decision by oral influence, the total score being in the millions. Your secretary, who handicapped the teams as umpire until given a vote of thanks and a ride on a rail, suggests that at A.S.M. ball games any hit for less than three bases should be a strike, and 15 balls should constitute a walk. The umpire should wear ear muffs and probably a gag.

Anyhow, the members of the winning team, Slatke, Allen, Simpson, Bodnar, Bartlett, and Hopkins, and the stars of the losing team, Critzer, Churchill, and Telling, were given prizes.

Society thronged the paddock as Shontz and Kerslake galloped away with the horseshoe honors as they have for some years.

A new feature, a ping-pong tournament, was a distinct disappointment, since no one was uncovered who could beat Van Horn. Howard Hopkins was second.

Chairman Pulsifer devoted himself largely to watching the secretary-treasurer and the money.

A hundred and seventy sat—or reclined—for dinner, as toothsome as a steak as the writer, a steak-hound of parts, has had in many years.

Entertainment in the Lauder manner was enjoyed from Phil Barker, who out-amatured Major Bowes with an open prize competition for the best rendition of "Wee Deoch and Doris"—but A.S.M. members are strong men, though far from silent.

Harry Pulsifer presided while George Hales, chairman of the Outing Committee, distributed prizes. The names of several undeserving recipients have already been mentioned. Further drawings were held for reservation card and door prizes.

Sincerely, indeed, the Chapter thanks the Outing Committee, Messrs. Hales, Code, Krebs and Springer, for the fine party they arranged, and the many others who loyally helped make the 1935 Cleveland Chapter Outing more than ordinarily successful.

Write the Palmer House Now for  
Convention Reservations

## Reports, Election and Talk By President End Season

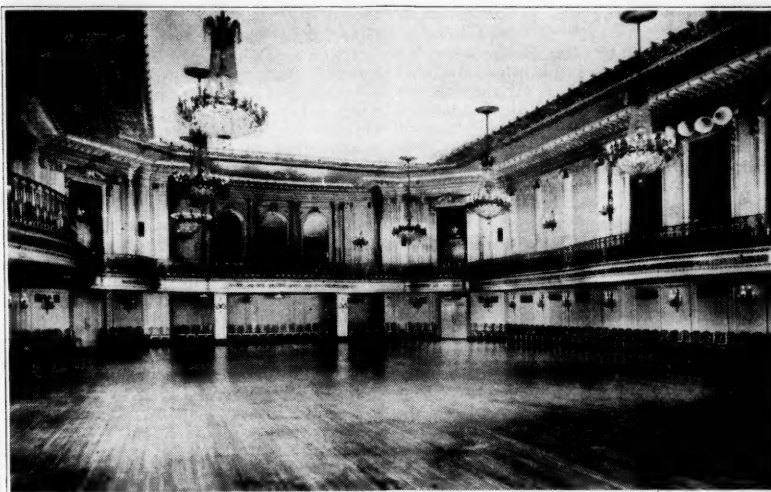
Reported by G. Sproule

Montreal Chapter, May 8.—Annual reports were received at the last meeting of the season and the Nominating Committee's slate of officers for 1935-36 was elected without contest.

The lecture was delivered by B. F. Shepherd, and, to those who had not heard Mr. Shepherd before, it became obvious why he holds positions such as the presidency of the A.S.M., and the managership of the Rock Drill Division of Ingersoll-Rand Co.

Mr. Shepherd's talk was entitled "A New Measuring Stick for Steel," and was an illustrated exposition of his paper "The P-F Characteristic of Steel," presented at the Grain Size Symposium of the A.S.M. Annual Con-

## Ball Room of the Palmer House



This large and handsome room will be the scene of the A.S.M. Technical Sessions on Monday, Tuesday, Thursday and Friday mornings, Sept. 30 to Oct. 4, during the National Metal Congress in Chicago. The Campbell Memorial Lecture and A.S.M. Annual Meeting will also be held in the ball room on Wednesday morning.

## Who — What — Where

O. W. McMULLAN is a name well known to readers of the Society's *Transactions*. International Nickel Co. is fortunate in being able to add this name to the research personnel at Bayonne.

Mr. McMullan, member of the A.S.M. since 1922, was formerly chief metallurgist for Timken-Detroit Axle Co. He has also been with Studebaker Corp. and is a graduate of University of Michigan.

This year's convention will, as in 1934, find Mr. McMullan on the list of authors for the technical sessions.

Another addition to Inco's Development and Research Department is HAROLD L. GEIGER, M.I.T. grad and member of the Chicago Chapter.

Mr. Geiger has been chief metallurgist of Wisconsin Steel Co., a subsidiary of International Harvester, since 1929, and was with Inland Steel Co. before that.

Steel mill practice and machinery steels are his specialty. For a few months he will operate out of the Detroit office of the Nickel Co. and will later make his headquarters in New York.

O. E. ROMIG was graduated from Pacific University in 1920, went to Oregon State College, and received his M. A. degree from Harvard, where he was Austin Teaching Fellow for two years.

He has been with the American Sheet and Tin Plate Co. ever since, in the Pittsburgh laboratory, the Vandergrift Works, and for the past five years in the Gary Sheet Mill as metallurgist. He has now been appointed manager of the Electrical Sheet Division in Pittsburgh.

His membership in the Society dates back ten years; he has transferred now from the Chicago to the Pittsburgh Chapter.

PAUL S. MENOUGH (Pittsburgh Chapter), formerly of Michigan Steel Castings Co., has been appointed by the Michiana Products Corp., Michigan City, Ind., as representative for the Pennsylvania district with office in Pittsburgh.

Turner C. Smith, design engineer for General Petroleum Corp. of California and member of the Los Angeles Chapter of the American Society for Metals, has been elected divisional vice-president of the American Welding Society for the Pacific Coast.

vention, Oct., 1934, published in *Transactions*, Dec., 1934, and reviewed several times in this paper.

HOWARD AGNEW SMITH, formerly National Research Council Fellow conducting experimental and theoretical studies on reactions in the solid state at the Metals Research Laboratory, Carnegie Institute of Technology, is now in the Department of Industrial Cooperation, Massachusetts Institute of Technology.

The Department is carrying on an investigation of pit corrosion of stainless steel for the Chemical Foundation under the direction of a Corrosion Committee of faculty members chairmanned by Dr. R. S. Williams.

Timken Steel & Tube Co., Canton, Ohio, announces the appointment of S. D. WILLIAMS as manager of tube sales.

After graduating from Lehigh University as a metallurgical engineer in 1913, Mr. Williams started work with the Carnegie Steel Co. at Homestead, subsequently becoming superintendent of open-hearth operations for the Central Iron & Steel Co. at Harrisburg, Pa. Later he became associated with the Pittsburgh Crucible Steel Co., Midland, Pa., as chief metallurgist, and in 1926 joined the Timken Steel & Tube Co. as metallurgical sales engineer, being made assistant director of sales in 1932, which position he filled until his recent promotion.

Mr. Williams has been a member of the A.S.M. since 1926.

HOMER C. BUTTS, Cleveland Chapter member, has been made assistant to the president of Sharon Steel Hoop Co., Sharon, Pa. For the past 11 years he has been with Newton Steel Co., as chief metallurgist, assistant to vice-president, and vice-president in charge of operations. Prior to that he was on the staff of General Motors Research Corp.

W. B. SULLIVAN, well-known pioneer in the development and manufacture of heat and corrosion resistant alloy castings, and organizer of the Michiana Products Corp., has joined the Alloy Department of Lebanon Steel Foundry, Lebanon, Pa.

GRANT GOODWIN, newly elected member of the Indianapolis Chapter Executive Committee, has just been made metallurgist for Muehlhausen Spring Co., Longansport, Ind.

Mr. Goodwin was formerly assistant metallurgist for Allison Engineering Co., and has been chemist for E. C. Atkins Co. and assistant metallurgist for Chicago Screw Co. His education was obtained at Butler and Purdue Universities.

## Monel Given Strength And Hardenability by Addition of Aluminum

Reported by Clarence E. Jackson

Washington Chapter, May 8—A dinner with record attendance of almost 150 opened the last meeting of the Chapter's very successful season. A great deal of good natured and complimentary pleasantries took place at the expense of Lieut. G. D. Linke for his enthusiastic activities as chairman of the Meetings Committee. The Chapter regrets that due to a transfer Lieut. Linke, for the present, must bid us farewell. As a token of appreciation of his services, a beautiful cocktail set was presented to him. Bon voyage, Lieut. Linke!

Emil Gathmann, A.S.M. national treasurer, assisted in installation of the new officers for the coming year.

The technical session was addressed by Dr. W. A. Mudge, works metallurgist of the Huntington, W. Va., plant of the International Nickel Co. His subject was "K Monel."

Dr. Mudge stated that as engineers progress as far as the limits of material will permit them, it is necessary for metallurgists to aim at the production of better materials. K Monel, a recent development, is a corrosion resistant non-ferrous, non-magnetic alloy of nickel, copper and aluminum. It is produced by the addition of a small amount (5% max.) of aluminum to Monel metal. It retains the excellent corrosion resistance of Monel with the added advantage of increased strength and hardenability by heat treatment. K Monel in its hardest grade has a proportional limit in excess of 100,000 psi., tensile strength 160,000 psi., elongation (in 2 in.) over 15%. K Monel may be used where the strength requirements are for a heat treated medium alloy steel and corrosion factors demand an equivalent of Monel metal.

As refreshments were served the members of the Chapter were entertained by the "Washboard Blues," a group of willing radio entertainers.

Write Palmer House Now for  
Convention Reservations

## X-Ray Machine Provides Production Line Inspection

An X-ray machine which for the first time permits fluoroscopic inspection of goods in motion on the production line is announced by Adrian X-Ray Mfg. Co., 3535 N. Palmer St., Milwaukee, Wis.

A radiographic attachment permits the making of X-ray photographs should they be desired.

The operator examines through an eye-piece products passing through the machine on a conveyor belt. Any unit which shows flaws can be marked for rejection by a pointer device.

## American Electric Furnace Co. Announces New Representatives

Factory representatives for the sales and service of American Electric Furnace Co. products have been announced as follows:

Anderson-Bolds, Inc., 1836 Euclid Ave., Cleveland, for Ohio and Western Pennsylvania (territory formerly handled by Ludwig Hommel & Co.).

Northern Machinery and Supply Co., Lumber Exchange Bldg., Minneapolis, Minn., for Minnesota and the western section of Wisconsin.

W. G. Nichol Co., 711 W. Michigan St., Milwaukee, for the remainder of Wisconsin.

## Pardon Please!

In listing the nominations for new officers of the Society in the last issue of THE REVIEW (May, page 1), an error was made in crediting W. P. Woodside, nominee for treasurer, to the Molybdenum Corp. of America. Mr. Woodside is vice-president in charge of research for Climax Molybdenum Co.







## List of Convention Papers to Be Preprinted

The following papers, scheduled for presentation before the 17th National Metal Congress in Chicago, the week of Sept. 30, will be preprinted and will be ready for distribution about Sept. 1.

Any or all will be sent postpaid to members of this Society upon request. Order by number according to list below.

1. **On the Preparation of Iron and Steel Specimens for Microscopic Investigations**  
F. F. Lucas, Bell Telephone Laboratories, New York City.
2. **Oxalic Acid as an Electrolytic Etching Reagent for Stainless Steels**  
George A. Ellinger, U. S. Bureau of Standards, Washington, D. C.
3. **On Naming the Aggregate Constituents in Steel**  
J. R. Vilella, G. E. Guellich and E. C. Bain, United States Steel Corp., New York City.
4. **Arc Welding of High Carbon and Alloy Steels**  
T. N. Armstrong, Norfolk Navy Yard, Portsmouth, Va.
5. **A Dilatometric Study of the Alpha-Gamma Transformation in High Purity Iron**  
C. Wells, R. A. Ackley, and R. F. Mehl, Carnegie Institute of Technology, Pittsburgh.
6. **Some Transient Phase Changes During the Graphitizing Reaction**  
H. A. Schwartz, H. H. Johnson, and C. H. Junge, National Malleable and Steel Casting Co., Cleveland.
7. **Notes on the Solidus Temperatures in the Systems Iron-Tungsten and Iron-Molybdenum**  
W. P. Sykes, General Electric Co., Cleveland.
8. **The Influence of Deoxidation on the Aging of Mild Steels**  
B. N. Daniloff, R. F. Mehl, Carnegie Institute of Technology, Pittsburgh; and C. H. Herty, Jr., Bethlehem Steel Co., Bethlehem, Pa.
9. **The Aging of Steel**  
E. S. Davenport and E. C. Bain, United States Steel Corp., New York City.
10. **Endurance of Case Hardened Gears**  
O. W. McMullan, International Nickel Co., Bayonne, N. J.
11. **Pickle Pitting by Electrolytic Potentials as Affected by Scaling Temperature**  
C. H. McCollam and D. L. Warriek, Timken Steel & Tube Co., Canton, Ohio.
12. **Damping Capacity, a Factor in Fatigue**  
G. R. Brophy, General Electric Co., Schenectady, N. Y.
13. **Effect of Carbon, Oxygen and Grain Size on the Magnetic Properties of Iron-Silicon Alloys**  
T. D. Yensen, Westinghouse Electric & Mfg. Co., East Pittsburgh; and N. A. Ziegler, West Penn Electric Co., Pittsburgh.
14. **Relation of Hot Working to the McQuaid-Ehn Grain Size**  
H. A. Grove, Republic Steel Corp., Canton, Ohio.
15. **Austenitic Grain Size in Cast Iron**  
D. W. Murphy and W. P. Wood, University of Michigan, Ann Arbor.
16. **Physical Properties of Metals as Affected by Ammonia Synthesis**  
H. L. Maxwell, E. I. du Pont de Nemours & Co., Wilmington, Del.
17. **Correlation of Failures from Embrittlement of 4 to 6% Chromium Steel with the Notched Bar Impact Test**  
H. M. Wilten, The Texas Co., Port Arthur, Texas.
18. **Influence of Carbon Content on the High Temperature Properties of Steels**  
A. E. White, C. L. Clark, University of Michigan, Ann Arbor; and R. L. Wilson, Timken Steel & Tube Co., Canton, Ohio.
19. **A New Heat Resistant Alloy**  
S. L. Hoyt and M. A. Scheil, A. O. Smith Corp., Milwaukee, Wis.
20. **High Temperature Properties of Nickel-Cobalt-Iron Base Age-Hardening Alloys**  
C. R. Austin, Penn State College, State College, Pa.
21. **Grain Size and Its Influence on Surface Decarburization of Steel**  
D. H. Rowland and Clair Upthegrove, University of Michigan, Ann Arbor.
22. **Observations on the Oxidation of Steel**  
M. Baeyer, Illinois Steel Co., South Works, Chicago.
23. **Hardening Characteristics of One Per Cent Carbon Tool Steels**  
T. G. Digges and Louis Jordan, U. S. Bureau of Standards, Washington, D. C.
24. **Interpretation of Torsion Impact Properties of Carbon Tool Steel**  
G. V. Luerssen and O. V. Greene, Carpenter Steel Co., Reading, Pa.
25. **Contributory Effects of Furnace Atmospheres on the Grain Size of Molybdenum High Speed Steel**  
Arthur Phillips and M. J. Weldon, Yale University, New Haven, Conn.
26. **Factors Influencing the Nature of the Cutting Speed-Tool Life Curve**  
O. W. Boston, W. W. Gilbert and C. E. Kraus, University of Michigan, Ann Arbor.
27. **Open-Hearth Temperature Control**  
Earnshaw Cook, American Brake Shoe & Foundry Co., Chicago Heights, Ill.
28. **The Effect of Deoxidation on the Rate of Formation of Ferrite in Commercial Steels**  
D. L. McBride, Carnegie Institute of Technology; C. H. Herty, Jr., Bethlehem Steel Co., Bethlehem, Pa.; and R. F. Mehl, Carnegie Institute of Technology, Pittsburgh.
29. **Equilibrium in the Reaction of Hydrogen with Ferrous Oxide in Liquid Iron at 1600 Degrees C.**  
M. G. Fontana, University of Michigan, Ann Arbor and John Chipman, American Rolling Mill Co., Middletown, Ohio.
30. **Chromium Steels of High Nitrogen Content**  
Russell Franks, Union Carbide & Carbon Research Laboratories, New York City.

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**FOUNDRY METALLURGIST:** Bachelor of metallurgical engineering, University of Detroit. Three years experience in testing, duplexing, and cold melting and control of cupolas and electric furnaces making all sorts of ferrous castings. Age—25. Box 7-15.

**PHYSICAL METALLURGIST, M.S.:** Ten years experience in metallurgical research with large manufacturing company, involving work in both ferrous and particularly non-ferrous fields. Wide plant contacts. Six years in collegiate educational work. Location immaterial. Box 7-20.

## Afternoon Inspection Trip [Climaxes Lecture Course]

Reported by J. W. McBean

Ontario Chapter, May 7—We were delighted to welcome National President B. F. Shepherd at our annual meeting, held in the Royal Connaught Hotel in Hamilton.

Through the courtesy of W. G. Morrow of the Steel Co. of Canada, the Chapter had an opportunity, during the afternoon, to see the various operations in the manufacture of steel as a fitting climax to the lecture course which was so enthusiastically attended. To make things complete an additional lecture was arranged for a week later to give an opportunity for questions and review.

Announcement was made of the Annual Sports Day on June 14. Under Bob Murray's leadership this has become an outstanding event in the Chapter's calendar, and in addition comes out on the credit side of the ledger.

After the election of officers the new chairman, W. Oram, took charge. The desire to see and hear Mr. Shepherd was shown by the fact that the dining-room was barely large enough to accommodate all who attended. Mr. Shepherd first gave us an idea of some of the problems involved in the rapid growth of A.S.M. membership. He then presented his talk on P-F characteristics, which has already been reported in THE REVIEW.

## Tensile and Impact Tests

Discussed at New Haven

Reported by L. E. Raymond

New Haven Chapter, May 16. — The May meeting was held in Hammond Laboratory, Yale University. Results of the annual election of officers were announced and will be found on another page in this issue.

Dr. R. M. Brick of Hammond Laboratory, technical chairman, introduced the speaker, H. C. Mann, research engineer of Watertown Arsenal. His outline of the latest developments in tensile and impact testing of materials contained many new thoughts and interpretations. That those attending the meeting felt well rewarded was shown by the varied and extended discussion from the floor following the talk.

## Aluminum Co. Has Analysis Book

Aluminum Co. of America have assembled all their methods for chemical analysis in a single booklet entitled, "Chemical Analysis of Aluminum." Copies may be obtained from Aluminum Research Laboratories, Box 772, New Kensington, Pa., for 50c postpaid.

## Bain's Presentation And Topic Praised

Reported by Gordon T. Williams

Cleveland Chapter, May 8—The Chapter's final technical meeting and annual business meeting were held at the same time. Principal speaker was Edgar C. Bain of United States Steel Corp., whose fame brought 125 to dinner, and 150 others later. E. E. Thum ably served as technical chairman.

Mr. Bain's talk, a summary of his recent work on hardenability, grain size, and effect of alloying elements, presented many of the data already published by him, as well as some later findings. It is hard indeed to restrain enthusiasm for Bain's brilliant manner of presentation and the beautifully logical development of his thesis. He was accorded a degree of attention rarely given a speaker. This work that Bain is doing is basic and fundamental; its accuracy and value are outstanding; yet we feel that still more praise must go to him for the splendid way his reports and papers are always prepared and delivered.

Several distinguished guests were present, including Bob Archer, Harry McQuaid, Earl Smith, John Johnston and others, most of whom participated in the long discussion which followed the talk.

After the dinner, Chairman Ross thanked Case School of Applied Science for its fine cooperation in our educational activities, past and future, and Case President W. E. Wickenden acknowledged our thanks briefly.

The Secretary-Treasurer's annual report was read by G. T. Williams, whose reputation as a speaker was not enhanced by comparison with Bain. It showed that (1) everything was all right this year, (2) everything will be all right next year. The Chapter has more members, gave more service, received more money and has more reserve funds than ever before.

The retiring chairman, Erle Ross, then thanked his officers and committees for their assistance, with particular blessings on Bill White whose special committee tripled the number of sustaining members this year. Incoming officers were introduced and installed. Committees and plans for the coming year were reported, and announcement was made of the outing on June 6 at Sleepy Hollow. John S. Richards won the drawing for a free dinner.

So the Cleveland Chapter's most successful season closed, with all deeply appreciative of the splendid leadership of Erle Ross, who tries uselessly to pass credit to others.

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# New Officers for 1935-36 Recently Elected by A. S. M. Chapters

Following is a list of newly elected chapter officers for the 1935-36 season. Returns have not yet been received at National Headquarters for the Penn State Group and the Schenectady and Springfield Chapters. These will be announced in the next issue of THE REVIEW.

## BALTIMORE CHAPTER

J. F. Hakes, Baltimore Tool Co., chairman; Stanley P. Watkins, Rustless Iron Corp. of America, vice-chairman; Paul Lane, American Hammered Piston Ring Co., secretary-treasurer. Executive Committee: W. B. Arness, William Inman, S. Proctor Rodgers, J. N. Ostrofsky, W. A. Wood.

## BOSTON CHAPTER

W. P. Knecht, Crucible Steel Co. of America, chairman; J. Walsted, Mass. Institute of Technology, Cambridge, Mass., vice-chairman; H. E. Handy, Saco-Lowell Shops, Biddeford, Maine, secretary-treasurer. Executive Committee: E. L. Bartholomew, G. H. Burnett, E. N. Downing, H. N. Ewertz, F. P. Flagg, L. E. Geerts, R. F. Harrington, A. L. Knight, H. H. Lester, A. J. McDuff, R. J. Phelon.

## BUFFALO CHAPTER

F. L. Weaver, American Radiator Co., chairman; William Harbrecht, Electro Metallurgical Co., Niagara Falls, vice-chairman; B. L. McCarthy, Wickwire Spencer Steel Co., secretary; George F. Roeder, J. T. Ryerson & Sons, Inc., secretary-treasurer. Executive Committee: W. H. Blockside, T. H. Burke, J. Egan, Raymond Mann, Leon H. Nelson, S. Osgood, Lynn Reynolds.

## CANTON-MASSILLON CHAPTER

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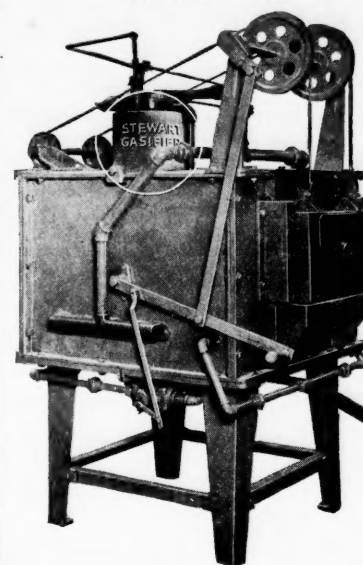
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A new gasifier unit for all industrial gas-fired furnaces is now being offered nationally by the Stewart Industrial Furnace Division of the Chicago Flexible Shaft Co., Chicago, Ill. It is claimed to reduce gas bills as much as 75%.

By converting oil to a true gas of high B.t.u. value, the Stewart gasifier enables the user to buy gas for the low cost of oil.

It can be attached to any gas furnace, and requires no additional floor space, since it rests on the vent of the furnace. The same burners are used.

## Thermostat Diaphragms and Condenser Tubes Use Adnic Reported by Clarence E. Jackson

Washington Chapter, April 10—At the seventh regular meeting of the season W. B. Price, chief chemist and metallurgist of the Scovill Mfg. Co., talked on "Adnic and Its Properties."

Mr. Price showed how close cooperation between engineer and metallurgist had developed this corrosion and heat resisting white metal alloy. Its application in thermostat diaphragms was carefully described. Physical properties, effect of cold working, and corrosion resistance were discussed. The latter quality makes it extensively used for condenser tubes.

The discussion brought out that steel furnace practice is essential in order to keep the carbon low. Casting shrinkage is approximately that of steel. Sulfur is detrimental and zinc up to 0.5% proves beneficial.

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